

**Response to June 9, 2014 Comments**

**Amendments to Statewide General National Pollutant  
Discharge Elimination System (NPDES) Permit for Residual  
Pesticide Discharges to Waters of the United States from  
Vector Control Applications  
(Vector Control Permit Amendments)**

**State Water Resources Control Board  
July 1, 2014 Meeting**

## Response to Comments Vector Control Permit Amendments

The State Water Resources Control Board (State Water Board) received public comments from the Bay Area Clean Water Agencies (BACWA) and Clean Water Action of California during the 30-day comment period of the proposed amendments to the Vector Control Permit. Clean Water Action of California echoes all of BACWA's concerns. No other public comments were received on this item. BACWA's five areas of concern regarding the proposed amendments and staff's response are presented below.

### **Comment 1: Modifications Proposed Without Scientific Justification**

BACWA comments that the State Water Board should identify the scientific studies or produce a staff report that documents how the amendments will not impair water quality. Its comments state that the State Water Board should develop relatively consistent standards in statewide permits used to regulate potential water quality impacts related to toxicity for different categories of dischargers.

### **Response 1:**

The State Water Board and the Mosquito and Vector Control Association of California (MVCAC) funded a monitoring study in 2011 and 2012 to determine the impacts of vector control applications on surface water quality. Based on this study, the State Water Board's Deputy Director of Water Quality determined that vector control applications do not significantly affect surface water quality or impact beneficial uses. Consequently, the Deputy Director amended the Vector Control Permit Monitoring and Reporting Program to replace the previously-required visual, physical, and chemical monitoring with monitoring and reporting of application rates, visual observations and reporting of non-compliant applications.

In its comments, BACWA stated that adding active ingredients is incongruous with Integrated Pest Management (IPM) methodology. Based on State Water Board staff's discussions with representatives of the California Department of Public Health (CDPH) and MVCAC, vector control districts continue to use IPM principles. These include education of the public regarding protecting themselves from mosquitoes and other vectors, surveillance to target control efforts in areas where they are needed, physical control and source reduction to reduce standing water or harborage for vectors, biological control where appropriate, using predatory fish to control mosquitoes, and chemical control where appropriate. In some cases, using adulticides is the appropriate choice to best protect residents and wildlife from contracting disease or encountering nuisance vectors at populations sufficiently large to negatively impact the quality of life. Adulticide application methods are outlined on page D-19 of the permit.

During the comment period for the proposed amendments to the Vector Control Permit, State Water Board staff discussed the proposed amendments with representatives of the Regional Water Quality Control Boards (Regional Water Boards), CDPH, and MVCAC. The discussions revealed that bifenthrin, carbaryl, chlorpyrifos, cyfluthrin, cypermethrin, and diflubenzuron are rarely used for vector control purposes. The discussions also revealed that the remaining proposed active ingredients deltamethrin and lambda-cyhalothrin are currently used for barrier sprays, where non-flowering vegetation or other surfaces are sprayed to kill mosquitoes that

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are resting on the surface. Barrier sprays are known to be most effective when applied at the edge of the vegetation and not inside large patches of vegetation. Thus, barrier sprays are not directly applied to water.

In addition, the California Department of Pesticide Regulation (DPR) 2012 report entitled Summary of Pesticide Use Data stated that public health uses of deltamethrin and lambda-cyhalothrin are 0.17 percent and 0.009 percent, respectively, of the total amounts of these pesticides reported statewide, which excludes homeowner and other non-reportable applications. These active ingredients will continue to be limited in use by public health agencies. State Water Board staff does not expect a significant increase in the number of applications by vector control agencies as a result of inclusion of these active ingredients in the Vector Control Permit.

**Comment 2: Cumulative Impact of Pesticide Mixtures**

The State Water Board should either continue its previous methodology of considering the cumulative impacts of pesticide formulations and mixtures or provide scientific support and justification that the proposed updated approach, particularly in the absence of water quality monitoring, will adequately protect water quality.

**Response 2:**

DPR is the agency within California that determines whether products that have been registered for use by the U.S. Environmental Protection Agency (U.S. EPA) Office of Pesticide Program are appropriate for use in California. The Environmental Monitoring Program within DPR includes surface water and ground water monitoring, and is a part of the registration process of a pesticide. As part of DPR's pesticide use monitoring, DPR will restrict the use of several pyrethroids for structural residential, industrial, and institutional use (see: <http://www.cdpr.ca.gov/docs/registration/canot/2014/ca2014-07.pdf> and [http://www.cdpr.ca.gov/docs/legbills/rulepkgs/11-004/text\\_final.pdf](http://www.cdpr.ca.gov/docs/legbills/rulepkgs/11-004/text_final.pdf)). These restrictions continue to recognize the need for applications made for vector control. The challenge associated with listing specific formulations of products is that the manufacturers may make updates or slight ingredient variations to a product to better suit the application needs for public health.

State Water Board staff will continue to review new mosquito control pesticide products and their formulation to evaluate the potential impacts to surface water bodies. If a formulation is found to have ingredients that would degrade surface water quality, staff will propose an amendment of the permit to restrict the use of products with these formulations. Staff will also propose amendment of the permit if DPR registers a new active ingredient for vector control.

**Comment 3: Permit Amendments Include Pesticides that are Clean Water Act (CWA) section 303(d) Listed Pollutants**

The State Water Board should prohibit the use of CWA section 303(d) listed pollutants in the Vector Control Permit within watersheds that currently have one or more water bodies listed as impaired by these pollutants, with possible exceptions for public health emergencies or situations in which less toxic controls are ineffective or temporarily unavailable. Alternatively, the State Water Board should prepare a staff report that demonstrates how the proposed permit amendments allowing direct

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application of pesticides to water bodies will align with future Total Maximum Daily Loads with waste load allocations for these pollutants.

**Response 3:**

If a water body is on the CWA section 303(d) list as impaired from a particular constituent, the Vector Control Permit prohibits an application of that constituent to that particular water body (Vector Control Permit, page 20, section IX.A.2).

In the case where a pesticide is applied to a watershed that contains one or more CWA section 303(d) listed water bodies, a water body draining into a CWA section 303(d) listed water body does not necessarily contribute to the degradation of the water body. Pages 17-20 of State Water Board Water Quality Order 2001-06 state the following: (1) listing of an impaired surface water body per CWA section 303(d) alone is not sufficient basis to conclude a lack of assimilative capacity; (2) the listing itself is only suggestive; it is not determinative; and (3) the listing information may not represent water quality throughout the entire water body, seasonal variations, or more recent data.

The vector control pesticides listed as CWA section 303(d) pollutants are not applied directly to the water. The active ingredients that are CWA section 303(d) listed are adulticides that are applied as barrier treatments (See Response 1) or as ultra-low volume applications intended to drift above the water surface, and not deposit into the water.

The Vector Control Permit additionally requires dischargers to examine and apply alternative methods to reduce the water quality impact from pesticide applications. These alternative methods can consist of no action, prevention, mechanical and physical methods, cultural methods, and biological control agents. If a discharger has exhausted alternative methods or the alternative methods are no longer effective, the discharger is required to apply the least amount of pesticide necessary to effectively control the target species. A discharger is required to provide descriptions of the alternatives in their pesticide application plan.

Dischargers provide public outreach through community meetings and websites regarding measures that can be taken to reduce the mosquito population. The public helps by identifying, reducing, and eliminating potential mosquito breeding sources. With the public informing the discharger of potential mosquito breeding locations, there is a reduction in pesticide use by targeting applications and by applying alternative methods to eliminate the sources.

The Vector Control Permit's application process and requirements for alternative method use, and the increase in public awareness for mosquito control, provides increased assurance that water quality protection is maintained.

**Comment 4: Relevance of Numeric Triggers is Negated without Water Quality Monitoring**

The State Water Board should amend the permit to require receiving water monitoring, with an option allowing vector control agencies to participate in regional monitoring programs to assess the potential water quality impacts from their pesticide

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applications. At a minimum, receiving water monitoring should be required for the newly added pesticides as well as dichlorvos, a breakdown product of naled. Alternatively, the State Water Board should prepare a staff report that explains how these numeric triggers will be effectively implemented in the absence of water quality monitoring.

**Response 4:**

State Water Board staff will review all pesticides newly registered with DPR for the purpose of vector control. If the product contains constituents that can potentially cause water quality impacts, staff will recommend monitoring for constituents of concern. The Deputy Director could issue a letter under California Water Code section 13383 requiring vector control agencies to conduct monitoring for the constituents of concern. If discharger monitoring is required, the triggers will be used to determine if surface water quality impact is occurring.

**Comment 5: Proposal to Reopen the Permit When DPR Registers New Active Ingredients**

The State Water Board should delete the proposed amendment “The State Water Board may reopen this General Permit to add new active ingredients that DPR registers for use in larvicides and adulticides for vector control”, or modify the statement to incorporate how the State Water Board will review and evaluate pesticides registered by DPR.

**Response 5:**

State Water Board staff is proposing to amend the language as shown below: “Larvicides and adulticides that are currently registered by DPR and new larvicides and adulticides that will be registered by DPR using these same active ingredients listed above may be used for vector control applications. The State Water Board will review all newly DPR-registered active ingredients and all newly DPR-registered products based on currently DPR-registered active ingredients for vector control to determine their potential impacts to waters of the United States. The State Water Board may reopen this General Permit to add new active ingredients that DPR registers for vector control.”

**Response Summary**

Mosquito and vector control agencies in California play an important role in protecting public health from mosquitoes, other vectors, and transmitted diseases. These agencies are unique in having pesticide reporting responsibilities to, and shared oversight from, the county agricultural commissioners, CDPH, DPR, and the Water Boards via the Vector Control Permit. Vector control agencies in California adhere to the principles of integrated pest management which prioritizes non-chemical control methods when possible and the judicious use of pesticides when necessary.

CDPH recently estimated that public health pesticide applications in California annually account for less than one percent of reported pesticide use in the state (Howard et al. 2010. Journal of the American Mosquito Control Association. 26(3):349-353). In addition, DPR previously estimated that approximately two-thirds

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of annual pesticide use in the state is not subject to reporting (e.g., household or garden use) (DPR 2008. Summary of pesticide use report data-2007).

Vector control agencies in California have demonstrated a safe, responsible, and judicious use of pesticides needed to preserve public health. The Vector Control Permit balances the need for pesticide applications with the protection of water quality by requiring the reporting of visual observations, monitoring and reporting of application rates, and reporting of non-compliant applications. In addition, the Vector Control Permit is more stringent than the existing U.S EPA Pesticide General Permit.